
**Glass-reinforced thermosetting plastics
(GRP) pipes and fittings — Test methods
for leaktightness of flexible joints**

*Tubes et raccords en plastiques thermodurcissables renforcés de verre
(PRV) — Méthodes d'essai d'étanchéité des assemblages flexibles*



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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 8639 was prepared by Technical Committee ISO/TC 138, *Plastics pipes, fittings and valves for the transport of fluids*, Subcommittee SC 6, *Reinforced plastics pipes and fittings for all applications*.

This standard is one of a series of standards on test methods which support standards for plastics piping systems and ducting systems.

Introduction

In a pipework system, pipes and fittings of different nominal pressures and stiffnesses may be used.

Any joint made between pipes and/or fittings should be designed such that its performance is equal to or better than the requirements of the pipeline, but not necessarily of the components being joined.

The requirements for assembly of the joint are not included in this International Standard, but they should be in accordance with the manufacturer's recommendations.

The material-dependent parameters and/or performance requirements are stated in the referring specification.

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Glass-reinforced thermosetting plastics (GRP) pipes and fittings — Test methods for leaktightness of flexible joints

1 Scope

This International Standard specifies methods of test for flexible socket-and-spigot joints with elastomeric sealing elements for glass-reinforced thermosetting plastics (GRP) piping systems intended for buried and above-ground pipelines. It covers methods of test for the leaktightness of the joint only, when subjected to specified combinations of longitudinal extension (draw), angular movement (angular deflection), vertical compression (misalignment) and internal pressure. This International Standard is applicable to joints for either pressure or non-pressure applications.

NOTE The joints tested in accordance with this International Standard are subjected to conditions which measure their ability to function and thereby prove the design of the joint, especially for type-testing purposes.

These test procedures are applicable to joints for pipes and fittings of all nominal sizes. The tests are suitable for the evaluation of joints intended for applications in which liquids are conveyed at temperatures specified in the referring specifications (see clause 2).

2 Principle

A test piece comprising two pieces of pipe joined together by incorporation of a socket or inclusion of a double-socket coupler is subjected to specified combinations of draw, angular deflection and misalignment. In each specified combination, the test piece is subjected to a sequence of three or more test pressures for specified periods of time, including an internal sub-atmospheric test pressure.

In addition, joints for pressure applications are subjected to a specified cyclic pressure test.

When under pressure, the joint is monitored for leakage.

Between each test (see Tables 1 and 2), the joint is inspected for signs of leakage.

NOTE 1 It is assumed that the following test parameters will be set by the specification making reference to this International Standard:

- a) the nominal size of the components to be connected by the joint (see 4.1);
- b) the pressure class of the components (see 4.1);
- c) the total effective length L of the assembled test piece (see 4.1);
- d) the number of test pieces to be used (see 4.2);
- e) if applicable, any preconditioning other than that specified in clause 5;
- f) the test temperature and the permissible deviations from the test temperature (see clause 6);
- g) the nominal pressure relevant to the joint under test (see 4.1 and clause 7);